

# CHECKLIST ENVIRONMENTAL ASSESSMENT

**COMPANY NAME:** Weaver Gravel

**PROJECT:** Weaver Gravel Rock Quarry

**OPERATING PERMIT:** #00151

**LOCATION:** Columbia Falls, Montana, W ½ Section 11, T 29 N, R 20 E. The mine is on private land and is approximately 9 miles east of Kalispell, MT, and 6 miles south of Columbia Falls, MT. The site is accessible from Montana Highway 206, Flathead County Elk Park Road, and a private road on the Weaver Gravel property.

**COUNTY:** Flathead

**PROPERTY OWNERSHIP:** Private minerals and surface

## **INTRODUCTION:**

Weaver Gravel applied for an amendment to Operating Permit 00151 on April 25, 2002. This draft environmental assessment (EA) provides background information and environmental analysis of the proposed expansion of this rock quarry. DEQ must decide whether to approve the applicant's proposed plan (Proposed Plan), deny the applicant's proposed plan (No-Action Alternative) or approve the applicant's proposed plan with modifications (Agency Modified Alternative). This draft EA is tiered to a previous EA produced for the Weaver Gravel Operating Permit 00151 (DSL 1993).

## **TYPE AND PURPOSE OF ACTION:**

**Existing Operation (No-Action Alternative):** This quarry was originally operated under provisions of a small miner exclusion statement (SMES) issued by the Department of State Lands (DSL) in August 1975.

The quarry is actually more of a typical sand and gravel operation with only occasional blasting when bedrock is encountered. Rock is excavated with a loader and a dozer. Rock is sorted for various landscaping purposes. Rock is crushed for construction materials including road base, sewer rock, etc. The products are sold throughout the Flathead Valley. As an area is quarried out, it is reclaimed.

The operating permit was issued in 1993 when the quarry exceeded the limits of a SMES (DSL 1993). The permit was amended in 1998 (DEQ 1998) to increase the permitted disturbance by 4.1 acres and increase the permit area by 5.7 acres. The reclamation bond of \$5,100 on 18.2 acres was released in 1998 for reclamation completed on a former staging area and talus slope.

Mining the talus off the slopes has increased the instability of the slopes. In the past, rock has sloughed off the USFS lands above the quarry where there were no bedrock outcrops between the quarry workings and the USFS boundary. This resulted in upslope runouts or headcuts into USFS lands. An agreement was reached with the USFS, the operator ceased operations in the problem area, and the problem was resolved. Weaver Gravel is committed to ensuring that further encroachments across the property line do not happen.

The following current permitted conditions represent the No-Action Alternative in this draft EA:

#### CURRENT PERMIT CONDITIONS

Permit Boundary:	106.04 acres
Permitted Disturbance:	44.00 acres
Current Disturbance (as of the date of the last annual report):	25.80 acres
Reclaimed Acres	18.20 acres
Current Bonded Acres:	25.80 acres
Current Bond:	\$19,000
Obligated Balance:	\$19,000
Unobligated Balance:	\$ 0

The reclamation bond is subject to periodic review to assure adequacy of the mine reclamation plan and the amount of the bond. DEQ would review the reclamation bond amount in response to this amendment request regardless of which alternative is selected. DEQ believes the current bond of \$19,000 may be inadequate for the current permitted and active disturbance of 25.80 acres.

**Proposed Plan:** The existing permitted operations are shown in Attachment 1. Weaver Gravel proposes to expand the permit area to the north by 5.6 acres as shown in Attachment 2. The permitted disturbance would increase by 10.79 acres. The life of the quarry would be extended by 10 years. There would be no change in operations from that originally permitted. There would be no increase in the number of employees.

Following is a summary of the operating permit conditions if this Proposed Plan is approved:

#### REVISED PERMIT CONDITIONS IF THE PROPOSED PLAN IS APPROVED

Permit Boundary:	111.64 acres
Permitted Disturbance:	54.79 acres
Reclaimed Acres	18.20 acres
Current Disturbance (as of 2001 annual report):	25.80 acres
Bonded Acres:	36.59 acres
Adjusted Bond:	to be calculated

N = Not present or No Impact will occur.

Y = Impacts may occur (explain under Potential Impacts).

NA = Not Applicable

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<b>1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</b> Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation	<p style="text-align: center;"><u>GEOLOGY</u></p> <p><b>[Y]</b> <i>No-Action Alternative:</i> The predominant landforms in the project area are a steep talus hillside of the Swan Range and the alluvial valley floor of the Flathead Valley. The quarry is located at the toe of the talus hillside, and the staging area is located on the valley floor. The mouth of the incised ephemeral Brown's Gulch drainage enters the main Flathead Valley on the northeast edge of the project area.</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
considerations?	<p>The lithology of the nearby mountain ranges (Whitefish Range on the north, the Apgar Range to the north and northeast, and the Mission and Swan Ranges to the south and southeast) consists of Precambrian age clastic rocks of the Belt Supergroup. The argillites being quarried include the Appekunny and Grinnell Formations. The area is heavily glaciated. Glacial drifts, moraines, and outwash deposits contain poorly sorted boulders, cobbles and pebbles.</p> <p>Subsurface strata on the main valley floor are generally well sorted sand and gravel kame deposits and outwash gravel typically intermixed with and overlain by glaciofluvial (sand, silts, and gravels deposited by glacial rivers) and glaciolacustrine clayey silt and sand (deposited in glacial lakes). Groundwater is transmitted through these porous alluvial-glacial aquifers that overlie tight shale and quartzitic bedrock strata. The glacial deposits range in depth from several hundred feet to a maximum of about 4,800 feet in various parts of the valley.</p> <p>The steep talus slope is composed of fragments of weathered calcareous and siliceous argillites of the Grinnell and Appekunny formations. At the base of the talus and in the fan, argillite fragments are interbedded with shallow deposits of semiconsolidated sand and gravel. The talus slope is metastable at the angle of repose; that is it is relatively stable at a slope of about 1.5 horizontal:1 vertical (33.7°) but is slowly undergoing downslope movement that is not noticeable over short periods of time.</p> <p>Weaver Gravel has been primarily quarrying the argillite fragments that have fallen onto the talus slopes within the permit boundary.</p> <p><i>Proposed Plan:</i> The proposed expansion would remove alluvial and colluvial material comprised of the same materials deposited in a fan at the base of the canyon from which Brown's Gulch flows.</p> <p>The proposed expansion would be mined down to bedrock on both sides of Brown's Gulch. The quarrying to date has not created a landform that is problematic in relation to Brown's Gulch. However, in the proposed expansion, the company anticipates going down to about the depth of the creek on the east side and as much as 50 feet deep west of the creek (Weaver 2002). The company would leave a 20-foot buffer</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
	<p>between the creek and the pit workings.</p> <p><i>Agency Modified Alternative:</i> Weaver Gravel does not specify how steep the quarry walls would be west of Brown's Gulch at closure. Weaver Gravel has not supplied an adequate map of operational and reclamation contours. The area quarried 50 feet deep would create the potential for Brown's Gulch to leave the stream channel during a flood and fill the depression with water. DEQ would require the depression to be reclaimed with 3h:1v side slopes to lessen the slopes and reduce the potential for erosion and headcutting. The geologic materials in the alluvial fan are very coarse and the potential for significant erosion and headcutting is minimal.</p> <p>Weaver Gravel would be required to submit an adequate map of the operational quarry area and post-mine contours.</p> <p style="text-align: center;"><u>SOILS</u></p> <p><i>No-Action Alternative:</i> Soils in the Flathead Valley are complex and dispersed on low terraces, flood plains, depressions, lacustrine deposits, and ground moraines. Drainage and nutrient characteristics vary depending on the origin, depth, and depositional history. There is very little soil within the permit area except in the valley areas. Weaver Gravel has committed to salvaging all soils where possible but does not salvage soils or fine-grained material from the talus slopes as it is too difficult to salvage and separate from the talus material. Weaver Gravel has committed to replacing at least 6 inches of soil on all disturbed areas except the steep talus slopes within the existing permitted area. This soil would consist of soil salvaged on the site, soil brought in from off the site, and/or a soil-woodchip mixture obtained from a timber mill in the Flathead valley. Weaver Gravel is able to obtain a few thousand cubic yards of this material each year depending upon the availability of the material from the mill. This in combination with what topsoil has been and would be salvaged would be sufficient to provide 6 inches of growing medium or soil on the disturbed areas. DEQ would bond to ensure Weaver Gravel has the required stockpile of soil resources on the quarry site at closure.</p> <p>Stockpiles of salvaged soil and the soil-woodchip mixture would be vegetated to minimize wind and water erosion. Soil stockpile locations vary during mine life.</p> <p><i>Proposed Plan:</i> Weaver Gravel has not proposed any</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
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	<p>changes to the soil salvage and replacement operations in the new amendment area. Some soils and/or product would be stockpiled in the 20-foot buffer zone along Brown's Gulch in the proposed expansion area.</p> <p><i>Agency Modified Alternative:</i> Given the probable high carbon content of the soil-woodchip material, this material would be tested to determine if any supplemental nitrogen would be necessary to help decompose the carbonaceous material and minimize the impact of nutrient deficiencies to reclamation vegetation. The company would then work with DEQ to determine the best means of adding any required nutrients. Weaver Gravel would set up reclamation plots to test the effects of fertility additions on reclamation success and to identify nutrient addition rates.</p>
	<p><b>[Y]</b> <i>No-Action Alternative:</i> Ground water is presumed and generally documented to flow in a southerly direction toward the Flathead River. The regional aquifer is generally at a depth of roughly 75 feet (during August) and flows southerly at a gradient ranging from 1.0 to 0.45 percent. The average velocity of ground water flow is estimated to range from 0.02 to 3.3 feet per day.</p> <p>Static water levels in the vicinity of the project have been measured at approximately 20 feet below ground surface. The well at the Weaver residence is 60 feet deep with static water levels consistently at about 20 feet. Just south of the quarry ground water is found at about 100 feet deep and further south ground water is at a depth of about 150 feet.</p> <p>Water yields from the wells in the area are generally good to excellent. Some of the higher producing wells in the area are completed in a confined gravel aquifer at a depth of approximately 200 feet. Deep aquifer wells completed in some valley fill deposits are capable of producing 225-1,500 gallons per minute (gpm). Wells completed in shallow aquifers or bedrock yield lesser amounts. The shallow domestic well at the Weaver residence produces about 20 gpm.</p> <p>The nearest surface water feature is Brown's Gulch, an ephemeral stream that crosses through the permit area and the proposed expansion. Surface flow generally coincides with snowmelt and reaches the mouth of the canyon until mid-June most years. In 2002, water was still flowing in mid-July due to the amount of precipitation received in June and July. Most years the flow from Brown's Gulch infiltrates into the</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
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	<p>talus outwash before reaching the main valley. On rare occasions when precipitation and saturation levels are high, surface flow will follow an obscure channel into a riparian area west of the project.</p> <p>Three corrugated metal pipes have been installed on the creek about ¾ mile down stream of the mouth of the canyon to allow access roads to cross over the creek. There is a small diversion and impoundment on Brown's Gulch above the mouth of the canyon. These features have provided enough water to irrigate alfalfa fields by pipeline and sprinkler on the main valley floor. Members of the Weaver family hold the water rights for this diverted water. The water rights are classified for irrigation, stock, and domestic use.</p> <p>The company's storage of waste oil, degreasers, and solvents comply with state and county regulations. Fuel storage at the four fuel storage tanks complies with Mine Safety &amp; Health Administration (MSHA) and DEQ regulations. The company has no formal Spill Prevention, Countermeasure and Control (SPCC) Plan, but implements common sense measures to clean up and contain small spills and drips in its shop and would consult with MSHA or DEQ to get recommended cleanup procedures in the event of a fuel spill. These measures along with berms built to protect Brown's Gulch and divert stormwater away from the site and other erosion control measures would minimize the risk of contamination of ground or surface waters. The operation does not routinely use blasting, which minimizes the potential for nitrate contamination in the water resources. The quarry has only blasted once in the life of the operation. Additionally, the quarry operation has not intercepted the ground water table to date, so there has been little potential impact on the quality or quantity of ground water downgradient of the existing quarry.</p> <p><i>Proposed Plan:</i> Erosion control measures such as berms and ditches are in place and would also be used in the expansion area to route infrequent runoff away from the active project area. No stormwater from the permit area or the proposed expansion runs or would discharge into Brown's Gulch as berms are or would be used to keep stormwater away from the creek. The coarse gravel bed foundation of the current permitted area and the proposed expansion allows for rapid infiltration of stormwater, making the area essentially self-contained.</p> <p>As long as Brown's Gulch stays in the ephemeral channel there should be minimal impacts to surface water flows</p>

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	<p>downstream. Ground water would rise in the abandoned quarry pit at closure during the spring but would move through the porous materials as before. The resultant pond would be ephemeral and would dry up later in the summer as the water table would drop.</p> <p>Brown's Gulch divides the proposed expansion. Weaver Gravel would need to cross the creek to move material to the crusher and screens. Therefore, another culvert would be needed. Weaver Gravel would need to submit another permit revision with the design for the culvert to DEQ for review and approval before it could be installed.</p> <p><i>Agency Modified Alternative:</i> However, since the company has recently constructed a haul road up the east side of the creek into an as yet undisturbed portion of the currently permitted site, DEQ would require Weaver Gravel to use that road to haul material from the expansion area east of the creek. The plant could be moved closer to the new haul road or the trucks could drive around, cross the creek at one of the current road crossings, and then enter the proposed expansion via the new access road to the relocated plant. Either of these options would eliminate the need for a new stream crossing.</p> <p>Weaver Gravel has proposed quarrying as deep as 50 feet west of the creek. As mentioned above, the water table may be as shallow as 20 feet. During operations, Weaver Gravel would have to develop a plan to pump and reinfiltrate the groundwater into the alluvium down gradient of the quarry operation. Impacts to ground water should be minimal as no water would be used, just pumped and reinfiltrated into the coarse rock materials.</p> <p>After reclamation, groundwater in the quarry pit would move rapidly through the coarse rock materials minimizing impacts to groundwater volumes in the area.</p> <p>As mentioned above, after closure of the quarry, the area quarried 50 feet deep would create the potential for Brown's Gulch to potentially leave the stream channel during a flood and fill the depression with water. DEQ would require the depression to be reclaimed with 3h:1v side slopes to lessen the slopes and reduce the potential for erosion and headcutting. The geologic materials in the alluvial fan are very coarse and the potential for significant erosion and headcutting is minimal.</p>

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	<p>Weaver Gravel would also need to develop a plan and design for collecting and rerouting water back into a lower stretch of Brown's Gulch should the creek overflow during a major storm event. The plan needs to cover how this would be achieved during quarry operation as well as after reclamation. The pit would be the most logical holding pond during operation and water could then be routed back into the creek. A series of berms and ponds or depressions could serve to reroute the water after reclamation. Berms left along the creek would help to contain it within its banks. If Weaver Gravel decided in the future to relocate the creek drainage in order to mine through the material beneath the creek or decided to install a culvert for a stream crossing, the company would need to apply to DEQ for a permit revision and work with the Flathead County Conservation District to determine if a 310 permit is needed.</p>
<p><b>3. AIR QUALITY:</b> Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p><b>[N] No-Action Alternative:</b> The airshed in the project area is classified as Class II. Although there are no known monitoring data for the site, air quality is presumed to be within applicable standards due to the absence of any major industrial development in the immediate area. Dust from agricultural operations is the major source of air pollution in the immediate area. Weaver Gravel has an air quality permit (#2551) from DEQ for its crusher.</p> <p>Measures are and would be taken to control fugitive dust emissions including wetting the work area, haul road, and stock piles as necessary. Weaver Gravel has only blasted once since the quarry opened. If blasting was needed, DEQ would be consulted about controlling dust emissions prior to implementing blasting.</p> <p><i>Proposed Plan:</i> The burning of the logging debris on the proposed expansion area would create a short-term air quality impact from the smoke. Given the large number of piles, it is possible that the burn may have to be done over several days to a couple of weeks by burning only a few piles at a time in order to maintain control of the burn. Weaver Gravel would need to obtain a burning permit from DNRC prior to burning.</p> <p>No other changes in air quality would result from the proposed action.</p>
<p><b>4. VEGETATION COVER, QUANTITY AND QUALITY:</b> Will vegetative communities be</p>	<p><b>[N] No-Action Alternative:</b> There is very little vegetation on the talus slopes within the permit area although plants do take root wherever pockets of soil or finer material have collected</p>



IMPACTS ON THE PHYSICAL ENVIRONMENT	
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significantly impacted? Are any rare plants or cover types present?	<p>and the slope has restabilized after quarrying. The vegetation consists primarily of a variety of native deciduous trees and conifers with an understory of low shrubs, grasses, and wildflowers. It will take a long time for the slopes to completely restabilize with talus and reestablished vegetation. This is an unavoidable impact of existing operations.</p> <p>Riparian species including sedges and rushes grow along portions of Brown's Gulch. Weaver Gravel has proposed leaving a 20-foot buffer area along the stream to minimize impacts to the creek and associated riparian vegetation.</p> <p>The planting of the approved reclamation seed mix would dramatically change the vegetation community on the site from its original composition, but it would be similar to what is grown in nearby hay meadows.</p> <p>There is a scattering of spotted knapweed, oxeye daisy, and canada thistle in the area. Weaver Gravel controls noxious weeds as part of its day-to-day operations including reseeding portions of the reclaimed staging areas as needed. The company has discussed a formal weed control plan with the Flathead County Conservation District and Extension Agent and would implement an application of an appropriate herbicide if the need arose and other necessary weed control measures identified by the agencies. These measures should prove adequate to minimize the risk of spreading noxious weeds.</p> <p>Reclamation on the non-talus slopes has shown the potential for successful revegetation of the quarry area. The talus slopes would be left to stabilize slowly over time. Plants are reestablishing as the area stabilizes.</p> <p><i>Proposed Plan:</i> The proposed expansion has been recently logged by Weaver Gravel leaving large piles of debris to be burned or otherwise removed from the site. Trees would eventually return to the expansion area after reclamation is completed.</p>
<b>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</b> Is there substantial use of the area by important wildlife, birds or fish?	<p><b>[N]</b> The wooded areas provide forage and cover for deer and elk. Other small mammals such as fox, coyote, black bear, ground rodents, striped skunks, porcupine, and weasels are present in the area. Bobcats and mountain lions have been observed in the area as well. Other animals include common raptors, songbirds, pine marten, and Merriam's turkey. There</p>

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RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
	<p>are no fishery resources in the immediate vicinity of the project area. The Flathead Valley is part of the Pacific Flyway. Although numerous flocks of geese and ducks migrate through this area, there is no habitat within the permit area that would encourage migrating birds to stop to feed or rest.</p> <p>The existing and proposed expansion areas would have limited wildlife use during operations. After reclamation, wildlife use would return but not to pre-quarry levels until some of the original forested habitat returns to the site.</p>
<p><b>6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</b> Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p><b>[N]</b> Pileated woodpeckers may occasionally use the riparian area and farmland adjacent to the project area. It is also conceivable that a grizzly bear could stray into the area from the Swan Range where grizzly bears are known to exist. Although bald eagles are found throughout the Flathead Valley, there is no suitable roosting, nesting, or feeding habitat in the immediate vicinity of the permit area. No wetlands have been identified although there are some riparian areas associated with Brown's Gulch and other streams in the area. Given the limited extent of suitable habitat, the area has limited potential impact on threatened and endangered species.</p>
<p><b>7. HISTORICAL AND ARCHAEOLOGICAL SITES:</b> Are any historical, archaeological or paleontological resources present?</p>	<p><b>[N]</b> There have not been and would not be any impacts to historic and archeological sites in the proposed expansion areas</p>
<p><b>8. AESTHETICS:</b> Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p><b>[Y]</b> <i>No-Action Alternative:</i> The main sources of noise include the crusher, conveyor belts, loaders, and trucks. The operation primarily operates from 8 a.m. to 5 p.m. Monday to Friday and 8 a.m. to noon on Saturday from March through October or as weather permits. The sound of the operation is probably enhanced to some extent by the reflection of sound by the talus slopes. However, a fairly dense buffer of trees has been retained along the west edge of the workings and that would help to buffer the sound reaching the nearby residences belonging to the owners and operators of the existing gravel operation. No changes in the noise levels are anticipated from the proposed action.</p> <p>The talus slopes within the permit area are very visible from area roads and the greater Flathead Valley. Quarrying on these slopes has increased the size of these open, unvegetated, rocky slopes and thus increasing the visibility of the quarry. This is an unavoidable impact of the existing</p>

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
	<p>permitted operation.</p> <p><i>Proposed Plan:</i> The proposed expansion area is located on an alluvial-colluvial fan at the base of the canyon from which Brown's Gulch flows. Due to the site's lower position in the landscape, quarrying operations at this site would not increase the long-distance visibility of the quarry and its talus slopes.</p> <p><i>Agency Modified Alternative:</i> The expansion area would be visible from the road accessing the quarry site, but a buffer of trees would be retained to help screen the road and the office area from the mine workings.</p>
<b>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR, OR ENERGY:</b> Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?	[N]
<b>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:</b> Are there other activities nearby that will affect the project?	[N]

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<b>11. HUMAN HEALTH AND SAFETY:</b> Will this project add to health and safety risks in the area?	[N] The proposed access road would not allow sufficient space for loaded gravel trucks, especially those with trailers, to turn and get aligned with the scales (Weaver 2002). This road would need to be relocated under the Agency Modified Alternative so that sufficient space would be available for gravel trucks to safely access the scales upon departure from the site.
<b>12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:</b> Will the project add to or alter these activities?	[Y] The proposed expansion would extend the life of the quarry for an additional 10 years and would increase the extent of the quarry workings.
<b>13. QUANTITY AND DISTRIBUTION OF</b>	[N] No new jobs would be created, but employment would continue for an additional 10 years over the existing

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<b>EMPLOYMENT:</b> Will the project create, move or eliminate jobs? If so, estimated number.	operation.
<b>14. LOCAL AND STATE TAX BASE AND TAX REVENUES:</b> Will the project create or eliminate tax revenue?	<b>[N]</b> No new taxes would be generated, but tax revenues generated by the quarry and employees would continue to be collected for an additional 10 years over the existing operation.
<b>15. DEMAND FOR GOVERNMENT SERVICES:</b> Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	<b>[N]</b>
<b>16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:</b> Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	<b>[N]</b> The operation has reached an agreement with the US Forest Service over problems with disturbance on Forest Service lands in the past. No new impacts would result from the expansion.
<b>17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:</b> Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	<b>[N]</b> There are numerous recreational areas in the vicinity of the proposed expansion and around and in the Flathead Valley. Glacier National Park lies about 20 miles to the north via Montana Highway 206 and U.S. Highway 2. The Flathead National Forest adjoins the permit area to the east and the Hungry Horse Dam lies between the Swan and Flathead Ranges to the east. The expansion of the existing operation would have no impact on the recreational opportunities at these locations nor affect routes used to access these sites. There is no recreational potential within the proposed expansion by anyone except the landowners and their friends.
<b>18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:</b> Will the project add to the population and require additional housing?	<b>[N]</b>
<b>19. SOCIAL STRUCTURES AND MORES:</b> Is some disruption of native or traditional lifestyles or communities possible?	<b>[N]</b>
<b>20. CULTURAL UNIQUENESS</b>	<b>[N]</b>

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<b>AND DIVERSITY:</b> Will the action cause a shift in some unique quality of the area?	
<b>21. PRIVATE PROPERTY</b> <b>IMPACTS:</b> Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	<b>[Y]</b> The Metal Mine Reclamation Act regulates mining and reclamation, including quarrying of privately held mineral rights, which is a form of private property, and reclamation of the quarry disturbances. DEQ would be regulating the use of that private property.
<b>22. PRIVATE PROPERTY</b> <b>IMPACTS:</b> Does the proposed regulatory action restrict the use of the regulated person's private property? If not, no further analysis is required.	<b>[Y]</b> Restrictions would be imposed on the applicant by DEQ that would restrict private property rights.
<b>23. PRIVATE PROPERTY</b> <b>IMPACTS:</b> Does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives.	<b>[Y]</b> The Type and Purpose of Action section above identifies the objectives of the Proposed Plan addressed in this EA. All but one of the discretionary modifications proposed by DEQ are allowed by law and would not restrict private property rights. One modification that is not specifically allowed by law would be recommended by DEQ, and the operator may request that it be added to the operating permit. If not, then DEQ could not impose the visual buffer modification, Modification #10 listed in Section 25 below.
<b>24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:</b>	<b>[N]</b>

## 25. Alternatives Considered:

*No-Action Alternative:* The No-Action Alternative would prevent the company from expanding its rock quarry. Weaver Gravel would continue its operation within the previously permitted area and would have to reclaim its disturbances according to the approved reclamation plan.

*Proposed Plan:* Weaver Gravel has proposed expanding its disturbance area and permit area to allow for the quarrying of material in an alluvial fan at the base of Brown's Gulch. Material would be removed on either side of the stream with material being removed as deep as 50 feet on the

west side of the creek. The existing plant with its crusher and screens would be moved into the expansion area. All other portions of the operation would continue according to the approved reclamation plan.

*Agency Modified Alternative:* DEQ has identified ten needed modifications to the amendment request.

Modification 1: The need for a stream crossing would be eliminated thus reducing the potential impacts to Brown's Gulch.

Stipulation 1: Weaver Gravel would use a recently constructed interior haul road to access the portion of the proposed expansion located east of Brown's Gulch. The excavated material would then be hauled to the crusher and staging areas wherever they were located at that time. This would eliminate the need for another stream crossing over Brown's Gulch. If Weaver Gravel does not want to implement this stipulation, then the company must submit a minor permit revision with the design for a stream crossing and obtain a 310 or other permits if necessary.

Modification 2: A plan needs to be developed to address how rerouting of flood waters from Brown's Gulch, if necessary, would be achieved during quarry operation as well as after reclamation. The pit would be the most logical holding pond during operation and water could then be pumped back into the creek. A series of berms and ponds or depressions could serve to reroute the water after reclamation.

Stipulation 2: Weaver Gravel would develop a plan and design for collecting and rerouting water back into a lower stretch of Brown's Gulch should the creek overflow during a major storm event. The plan should address how this would be achieved during quarry operation as well as after reclamation. The plan would be submitted for agency review by the date of the next annual report.

Modification 3: Since Weaver Gravel may quarry the area west of Brown's Gulch as deep as 50 feet, there is some potential for the creek to leave the stream channel during a flood and fill the depression with water. DEQ would require the depression to be reclaimed with 3:1 side slopes to lessen the potential for erosion and headcutting.

Stipulation 3: Weaver Gravel would grade the slopes between the quarry workings and Brown's Gulch to 3:1 and ensure the post-mine contours of this area are included in the maps requested under Modification and Stipulation 9 described below.

Modification 4: The water table may be as shallow as 20 feet in the proposed expansion area. Weaver Gravel would need to develop a plan to pump and infiltrate the ground water into the alluvium down gradient of the quarry operation.

Stipulation 4: Weaver Gravel would need to develop a plan for removing ground water from the quarry during mine operations. The plan would be submitted to DEQ by the date of the next annual report.

Modification 5: Since the soil-woodchip material brought onto the site to be used for reclamation growth media is high in carbon material, there is some potential for a nitrogen deficiency that could affect the success of revegetation efforts. The amount of this material available for reclamation needs to be identified and the material tested to determine its suitability as a growing

medium and to identify any necessary supplements by evaluating the materials in some reclamation test plots.

Stipulation 5: Weaver Gravel would identify the amount of soil-woodchip material it receives annually. Since this material would be used to supplement salvaged topsoil, Weaver would have the material tested to determine if there would be any nutrient imbalances to be corrected by additions of some form of fertilizer. If fertilizer or other amendments were recommended by the soil tests, Weaver Gravel would implement them. Recommendations would be evaluated during quarry life in test plots. Weaver Gravel would submit test results and a plan for test plots by the date of the next annual report.

Modification 6: Burning of logging slash requires a burn permit from DNRC.

Stipulation 6: Weaver Gravel would obtain the necessary burn permits prior to burning the logging slash on the expansion site.

Modification 7: The access road to the proposed expansion road does not allow sufficient space for gravel trucks to turn around to access the scales. The access road would be rerouted to exit the expansion area between the scale house and Brown's Gulch and connect to the existing access road to the current operation. This would provide sufficient space for turning gravel trucks to access the scales as they leave the site.

Stipulation 7: Weaver Gravel would update the plan of operations and include an alternate access road location between the scale house and Brown's Gulch that would provide sufficient space for gravel trucks to turn and access the scale upon departure from the site. All maps would be updated accordingly.

Modification 8: The application does not contain an adequate map of the proposed mining operations and final reclamation contours.

Stipulation 8: Weaver Gravel must meet with DEQ to discuss the needed maps and complete the maps by the date of the next annual report.

Modification 9: If the Agency Modified Plan is selected by the agencies, the operating permit amendment document would not reflect the changes imposed by the agencies in the modifications to the Proposed Plan.

Stipulation 9: Weaver Gravel must submit replacement pages for the operating permit document by the date of the next annual report due date, that reflect the changes imposed by the agencies if the Agency Modified Plan is selected.

Modification 10: The proposed expansion area would be readily visible and audible from the access road. Weaver Gravel has left a buffer of trees in place after logging a majority of the proposed expansion area and would maintain that buffer during quarry operation. This is a discretionary modification identified under MEPA and DEQ cannot require the operator to implement it.

Stipulation 10: Weaver Gravel would maintain a buffer of trees between the approved expansion and the access road to act as a visual and sound buffer. Weaver Gravel must inform DEQ whether or not it wants to include this stipulation as part of its operating permit as allowed by 75-1-201(5)(b), MCA.

- 26. Public Involvement:** A legal notice of the submittal of the amendment application from Weaver Gravel was published in the Daily Interlake and the Hungry Horse News in May and June 2002. A press release was also sent to the State of Montana NewsLinks service in May 2002. DEQ received comments from two people prior to the release of the EA asking about the location of the proposed action and whether or not environmental analysis would be conducted. The agency had an interdisciplinary team meeting on July 8, 2002. This draft EA will be distributed to the Weaver Gravel mailing list developed by DEQ.

This draft EA will be posted on the DEQ web page: <http://www.deq.state.mt.us/ea.asp>. For copies of the draft EA or to submit comments, write or call the Montana Department of Environmental Quality c/o Patrick Plantenberg, P.O. Box 200901, Helena, MT 59620-0901, telephone (406) 444-4960. Comments will be received for 30 days after the date of the signature below.

- 27. Other Governmental Agencies with Jurisdiction:** Weaver Gravel would need burning permits from the Montana Department of Natural Resources and Conservation. For future stream crossings or stream relocation Weaver Gravel may need a permit from the local Conservation District. No other government agencies have jurisdiction.
- 28. Magnitude and Significance of Potential Impacts:** There is some potential for impacts to Brown's Gulch as a result of implementing the proposed operation. This would result from the potential for Brown's Gulch to leave its banks and flood into the quarry workings or to cut a new channel and flow into the workings or the reclaimed site. The first three agency modifications listed above provide the means to minimize this potential risk by requiring the development and implementation of several plans to handle the creek and quarry operations during the life of the quarry and after closure. As Brown's Gulch is an ephemeral stream and there are no downstream users of the water that may flow in the creek during spring runoff, the impact of the proposed operation as well as that of the agency modifications would not be significant, but the modifications are needed to comply with water quality laws. The fourth modification above would require Weaver Gravel to address how it would handle ground water intercepted by the quarry workings. This water could be disposed by infiltration back into the ground water down gradient from the quarry. It is not likely that the withdrawal of this water would have any effect down gradient from the proposed expansion because there would be no consumption of the water. The potential impacts to air quality from burning logging slash on the site would only be a short-term impact during the time of the burn. Reclamation of the site would be achieved and agency Modification #5 would enhance the potential for success by ensuring that the soil medium used would provide sufficient nutrients for establishing vegetation on the reclaimed site. Visual and sound impacts would be reduced but not eliminated if Weaver Gravel chooses to implement Modification #9. Existing impacts from the quarried talus slopes that are visible from the Flathead Valley would not be increased by this amendment.
- 29. Cumulative Effects:** Minimal cumulative effects with other proposed projects in the area have been identified. There is one additional quarry south of the Weaver Gravel operation that is operating under a small miner exclusion statement. The operation is small and would need an operating permit from DEQ if it proposed a significant expansion of the operation. The current operation cannot exceed 5 acres of unreclaimed disturbance.
- 30. References:**
- Montana Department of Environmental Quality. 1998. Letter from Robert C. Winegar, DEQ, to Weaver Gravel approving revision #98-001 to Operating Permit #00151 to expand the permit area by 2.3 acres [attached supporting documentation indicates a disturbed area increase of 4.1 acres and an increase in the permit area by 5.7 acres]. November 24.



Montana Department of State Lands. 1993. Checklist Environmental Assessment on a proposal by Weaver Gravel for an operating permit. April 30.

Weaver, Bruce. 2002. Personal communication between Bruce Weaver, Weaver Gravel, and Kathleen Johnson, DEQ, regarding the application for the proposed expansion area of 5.6 acres and site conditions. July 16.

**31. Recommendation for Further Environmental Analysis:**

☐ EIS    ☐ More Detailed EA    ☒ No Further Analysis

No potential significant impacts have been identified. The agencies have selected the Agency Modified Alternative as the preliminary preferred alternative. This is not a final decision. This conclusion may change based on comments received from the public on this draft EA, new information, or new analysis that may be needed in preparing the final EA.

**32. EA Checklist Prepared By:**

Kathleen Johnson, Environmental Impact Specialist, DEQ  
Charles D. Freshman, Mining Engineer, DEQ  
George Furniss, Hydrogeologist, DEQ  
Patrick Plantenberg, DEQ Operating Permit Section Supervisor

This EA was reviewed by:

Greg Hallsten, DEQ MEPA Coordinator  
Warren McCullough, DEQ, Environmental Management Bureau, Chief

**33. Approved By:**

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Signature  
Warren D. McCullough, Chief, Environmental Management Bureau, DEQ

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Date